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Iowa State University's Center for Transportation Research and Education (CTRE) is the umbrella organization for the following centers and programs:

Bridge Engineering Center
Center for Weather Impacts on Mobility and Safety
Construction Management & Technology
Iowa Local Technical Assistance Program
Iowa Statewide Urban Design and Specifications
Iowa Traffic Safety Data Service
Midwest Transportation Consortium
National Concrete Pavement Technology Center
Partnership for Geotechnical Advancement
Roadway Infrastructure Management & Operations Systems
Sustainable Transportation Systems Program
Traffic Safety and Operations

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Shop Focus: Preparing your equipment for winter

With the winter winds soon blowing, it is never too soon to prepare your equipment for the season to come.

Winter-specific preparation

Winter involves using different equipment such as chains, heaters, and additional plowing attachments. Preparation means having this winter-specific equipment inspected, stocked, and ready to go once the previous season ends.

To prepare for winter, the city of West Des Moines follows an exhaustive two-page checklist for equipment maintenance and performs vehicle inspections from top to bottom. "It's not an option to have anything not be available," says West Des Moines operations supervisor Bob Dingman. His preparations include mounting spreaders, greasing deicers, adjusting chains, and checking plow blades to ensure all equipment performs as it should. "We pride ourselves on our snow program to keep the major streets open at all times," he says.

By September, Dingman's agency is already updating its snow and ice control manuals with new streets, expanded zones, and more. His agency also holds annual snow meetings to inform personnel of any changes. At the same time, he is also advertising for part-time, on-call help to fill in for any absences that may occur in the winter. Updated manuals, meetings, and part-time help all go together, he says, stressing the importance of winter preparation. "We have to make sure everyone is up to speed on what's new."

Early fall is also when West Des Moines motor grader operator Matt Dolan runs through winter-specific preparations. His equipment inspections include air pressure adjustments to tires to support his vehicle's wings, chain inspections, and antifreeze checks. Once he has inspected his equip-

ment, Dolan performs a dry run through his area to make sure his equipment works fine. Dolan's method is what every West Des Moines operator does and is a tip for every agency: It is one thing to make adjustments for the winter, but it's another thing to ensure they work.

Year-round preparation

Winter preparation involves not only winter-specific preparation but also year-round preparation. Many local agencies perform year-round vehicle inspections and maintenance. "When winter ends we're already taking inventory and stocking up for next year," says Dingman.

A list of year-round inspections may include the following:

- Fluids (e.g., fuel, windshield washer)
- Windshield wipers
- Bolts, pins, and cracks

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Equipment preparation tips

Your agency can better ensure its equipment is prepared for winter by asking five key questions:

1. Has your agency developed a 'Winter Preparation' equipment checklist and checked everything twice?
2. Is your agency's inventory checked and updated for the winter?
3. Are your agency's manuals updated?
4. Do your agency's trucks have proper winter attachments, and do they work?
5. Are your agency's employees trained and aware of your winter equipment preparation?

Acronyms in Technology News

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
CTRE	Center for Transportation Research and Education (at ISU)
FHWA	Federal Highway Administration
Iowa DOT	Iowa Department of Transportation
ISU	Iowa State University
LTAP	Local Technical Assistance Program
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
TRB	Transportation Research Board



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- Hydraulics
- Batteries
- Connections

Agencies handle equipment inspections and repairs differently. In West Des Moines, machine operators such as Dolan inspect and repair their machines throughout the year. When winter approaches, the preparation is already underway.

Failure to keep a watchful eye on regularly used equipment can lead to trouble. Drivers can become stranded in frigid conditions because of equipment failure or simply running out of fuel. "There's nothing like being stuck in a blizzard with a broken vehicle," says Dolan. Continual equipment inspection is part of Dolan's year-round motor grader operation. Not only will this yearly preparation ensure you're ready for the winter, but, Dolan says, "it will add time to your equipment's life, as well as to your own."

For more information

For more information on preparing your agency's winter equipment, contact West Des Moines operations supervisor Bob Dingman, 515-222-3535, bob.dingman@wdm-ia.com or West Des Moines motor grader operator Matt Dolan, 515-222-3480. ■

Training your employees

Proper snow plow skills are essential to successful snow management. Every year Iowa's Snow Rodeo offers participants an opportunity to test their skills operating a snow plow. Below are some training tips used in the snow rodeo your agency can try.

- Practice driving forward/backward.
- Navigate obstacles (e.g., barrels, cones).
- Check warning lights.
- Practice spotting and operating wings.
- Negotiate curves.

For more information and to download the snow rodeo training course map and materials, visit: <http://www.ctre.iastate.edu/events/expo/snowplow.htm>.

Snow and ice control

✓ Equipment checklist

Spreaders

- ✓ Inspect pumps, hoses, controls, and fittings.
- ✓ Check spinners, augers, and auxiliary engines.

Hydraulic spreader controls

- ✓ The two major components are the pump and the controls, whether manual or automatic. Operators should become familiar with spreader controls. Understand how the auger, or conveyor, and the spinner react at various settings.

Snow plow blades

- ✓ Carefully inspect blades after each use. If blade wear is excessive it may damage the moldboard. Snow plow blades do not wear evenly and should be replaced when they are worn at any point.

Electrical equipment

- ✓ Inspect and service all lighting and electrical equipment regularly, including wiring and sockets.
- ✓ Carry ample stocks of parts for rotating flasher units, including lenses and lamps.

Safety equipment

- ✓ Make sure there are flashlights, flares, flags, safety vests, and first-aid kits in truck cabs.
- ✓ Don't start a run without securing your seat belt.

Plan for emergencies

- ✓ Know the locations and telephone numbers of emergency repair and refueling stations.
- ✓ Skilled personnel should be on hand in garages during storms to promptly carry out minor repairs.
- ✓ Replenish spare parts inventory immediately following storms, or at the first opportunity.